

## REMARKS

Claims 1-12 are in this application and are presented for consideration. By this Amendment, Applicant has amended claims 1, 5, 7, 10 and 12.

Claims 1 and 5-7 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Hidaka et al. (WO 00/29214) in view of Takeda et al. (U.S. 2004/0023153).

Claim 1 has been amended to delete melamine/formaldehyde resin from the group of resins. Claims 5, 7, 10 and 12 have also been amended to provide that the photosensitive composition is applied to a subject with sufficient adhesion such that burning the coating is not required. As such the photosensitive composition of the present invention provides excellent coating and adhesion characteristics such that it can be applied to aluminum and copper or copper sulfate plating, which requires greater adhesion than aluminum. The photosensitive composition advantageously provides excellent scratching resistance and also advantageously allows for a resist image to be obtained that has excellent printing durability. The prior art as a whole fails to teach or suggest such features or advantages.

Hidaka et al. discloses a positive photosensitive printing plate that is prepared wherein the photosensitivity is to near-infrared rays which do not induce a chemical change in a photosensitive component. The printing plate comprises a photosensitive material formed by coating a composition onto a support. The composition comprises both a photo-thermal conversion material having an adsorption band within a wavelength range of 600 nm to 1,300 nm and an alkali-soluble resin. The proportion of the photo-thermal conversion material in the positive photosensitive composition is, in a weight ratio, preferably at least

0.1 wt%, more preferably at least 1 wt%, particularly preferably at least 2 wt%, and preferably at most 50 wt%, more preferably at most 30 wt%, and particularly preferably at most 20 wt%. The alkali-soluble resin may be any resin that is soluble in an alkali developer, preferably one which contains at least a novolak resin or a polyvinyl phenol resin. The proportion of the alkali-soluble resin in the photosensitive composition is preferably at least 40%, more preferably at least 60%, and preferably at most 95%, more preferably at most 90%, in a weight ratio. The photosensitive material also comprises a solubility suppressing agent.

Takeda et al. discloses a dissolution inhibitor (D) that is a compound having on the molecule at least two phenolic hydroxyl groups in which an average of from 10 to 100 mol % of all the hydrogen atoms on the phenolic hydroxyl groups are replaced with acid labile groups. The compound has a weight average molecular weight within the range of 100 to 1,000, and preferably 150 to 800. The dissolution inhibitor may be formulated in an amount of 0 to 50 parts, and more preferably 10 to 30 parts by weight, per 100 parts by weight of the base resin, and may be used singly or as a mixture of two or more thereof. Less amounts of the dissolution inhibitor may fail to yield an improved resolution, whereas too much amounts would lead to slimming of the patterned film, and thus a decline in resolution.

Hidaka and Takeda et al. fail to teach and fail to suggest the combination of a positive photosensitive composition that is applied to a subject to be coated and exposed to a laser to form a positive image without burning after applying the composition to the subject. Hidaka and Takeda et al. require a burning step after the composition is coated on

the subject. Hidaka et al. discloses on page 59, lines 7-10 that a photosensitive liquid is coated on to an aluminum plate and baked at 85°C for two minutes to obtain a photosensitive lithographic plate. Similar to Hidaka et al., Takeda et al. teaches in paragraph [0149] that the resist solutions are spin-coated onto silicon wafers and then baked on a hot plate at 100°C for 90 seconds. However, Hidaka et al. and Takeda et al. do not disclose a photosensitive composition having the specific combination of an alkali soluble organic high molecular substance, a photo-thermal conversion material, a resin and a dissolution inhibitor as claimed such that the photosensitive composition does not have to be burned once the composition has been applied to a subject. The specific weight percentages of the alkali soluble substance, photo-thermal conversion material, resin and inhibitor advantageously provides a composition with increased adhesion characteristics. This advantageously allows the composition to adhere to adhesion resistant materials, such as copper plating, without the composition having to be burned after the composition is applied to the material. This is significant in the present invention because it ensures that a uniform thickness of the coating is maintained since there is no dispersion caused by burning. Hidaka et al. and Takeda et al. fail to provide such adhesion characteristics because both references are void of any suggestion of a composition that adheres to an object without the composition having to be burned. In fact, Hidaka et al. and Takeda et al. fail to provide any suggestion for a positive photosensitive composition having a resin selected from the specific group of elements as claimed. Accordingly, the prior art as a whole takes a different approach and fails to direct the person of ordinary skill in the art towards each

feature of the composition. Accordingly, Applicant respectfully requests that the Examiner favorably consider claims 1, 5 and 7 as now presented and all claims that respectively depend thereon.

Claims 2 and 10-12 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Hidaka et al. in view of Susukida et al. (WO 00/34829, wherein the citations are from the English equivalent, U.S. 6,475,693).

As previously discussed above, Hidaka et al. fails to teach or suggest the combination of a positive photosensitive composition that is not burned after the composition is applied to a subject. Similar to Hidaka et al., Susukida et al. does not provide any suggestion or teaching for a composition that does not require burning after the composition is applied to a subject. Susukida et al. clearly discloses in Column 8, lines 25-31 that after a radiation-sensitive resin composition is coated on a silicon wafer the coating is pre-baked at 110°C for 120 seconds on a hot plate. In contrast to Susukida et al., the composition of the present invention does not require any baking once the composition is applied to an object. This advantageously provides a uniform coating with excellent adhesion characteristics. Compared with the present invention, Susukida et al. merely suggests a composition that is baked after being applied to an object, but fails to provide any suggestion for a composition that adheres to an object without any baking as claimed. As such, the prior art as a whole takes a different approach and fails to direct the person of ordinary skill in the art towards each feature of the claimed composition. Accordingly,

Applicant respectfully requests that the Examiner favorably consider claims 10 and 12 as now presented.

Claim 3 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Hidaka et al. in view of Parsons et al. (U.S. 6,280,899). Although Parsons et al. discloses heat compositions containing an aqueous developer soluble polymer, the references as a whole fail to suggest the combination of features claimed. Specifically, Hidaka et al. fails to teach or suggest the combination of an alkali soluble organic high molecular substance, a photo-thermal conversion material, a resin and a dissolution inhibitor having the specific weight ratios as claimed. As such, the references together do not teach or suggest the combination of features claimed. One of ordinary skill in the art is presented with various concepts, but these concepts do not provide any direction as to combining the features claimed. All claims define over the prior art as a whole.

Claim 4 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Hidaka et al. in view of Tsuruya (JP 2002-189294).

As previously discussed, Hidaka et al. fails to teach or suggest the combination of a resin and a dissolution inhibitor having the specific weight percentage as claimed. Further, Tsuruya fails to provide any suggestion for the composition as claimed. Tsuruya discloses a photomechanical process for a positive photosensitive planographic printing plate having a large development latitude. The photosensitive printing plate has a positive image forming material. Similar to Hidaka et al., the positive image forming material has a positive photosensitive composition layer. However, Tsuruya fails to teach or suggest a

photosensitive composition comprising an alkali soluble organic high molecular substance, a photo-thermal conversion material, a resin and a dissolution inhibitor having the specific weight ratios as claimed. However, Tsuruya merely discloses that the alkali-soluble resin component has an average molecular weight less than 2,000 and occupies 55 wt. % of the entire alkali-soluble resin. Tsuruya fails to teach or suggest a resin as claimed. Further, Tsuruya does not disclose a dissolution inhibitor and a photo-thermal conversion material having the specific weight ratios as claimed. As such, the prior art fails to teach important aspects of the claimed combination. Accordingly, Applicant respectfully requests that the Examiner favorably consider claim 4 as now presented.

Claim 8 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Hidaka et al. in view of Suskida and in further view of Parsons et al. As already discussed, Hidaka et al. fails to teach or suggest the combination of a resin in combination with an alkali soluble organic high molecular substance, a photo-thermal conversion material and a dissolution inhibitor as claimed. As such, the references together do not teach or suggest the combination of features claimed. One of ordinary skill in the art is presented with various concepts, but these concepts do not provide any direction as to combining the features claimed. All claims define over the prior art as a whole.

Claim 9 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Hidaka et al. in view of Susukida et al. and in further view of Tsuruya. Although Tsuruya discloses a photomechanical process for a positive photosensitive planographic printing plate having a large development latitude, the references as a whole fail to suggest the combination of

features claimed. Specifically, Hidaka et al. fails to teach or suggest the combination of a resin selected from a group of consisting of the elements as claimed. As such, the references together do not teach or suggest the combination of features claimed. One of ordinary skill in the art is presented with various concepts, but these concepts do not provide any direction as to combining the features claimed. All claims define over the prior art as a whole.

Favorable consideration on the merits is requested.

Respectfully submitted  
For Applicant,



By: \_\_\_\_\_  
John James McGlew  
Reg. No. 31,903  
McGLEW AND TUTTLE, P.C.

JJM:BMD  
72277-9

DATED: February 15, 2008  
BOX 9227 SCARBOROUGH STATION  
SCARBOROUGH, NEW YORK 10510-9227  
(914) 941-5600

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